Facilitating Collaborative Research and Discovery: caBIG® in Action in Utah

Beckerle: The Huntsman Cancer Institute's mission is to understand cancer from its beginnings and to use that information to improve strategies for cancer detection, diagnosis, treatment and prevention.

We have a tremendous foundation of understanding that cancer is fundamentally a genetic disease, and our scientists here at Huntsman Cancer Institute and the University of Utah have really made substantial contributions to the appreciation of the genetic causation of cancer.

Frey: There's a paradigm shift going on certainly in biology where before researchers had their particular genes that they looked at and examined, and the experiments were very controlled and research progressed in that manner. We've had an explosion of data in these expression array measurements where they can take a little piece of tissue, put it on a chip, and measure 50,000 variables in one shot.

So, how do you get a robust model that generalizes across labs--across experiments--and then could be used to make informed decisions in relationship to treatment? caBIG® addresses that by creating models that can be used to join these datasets together and an effective, efficient manner.

Burt: We have families from 5 to 20,000 individuals large where all the cancer cases are known; where we know how people are related, and it has provided an incredible opportunity for gene discovery. That's how the APC gene was discovered. We've found six additional cancer genes here at Utah and over thirty other disease genes.

Beckerle: We really have now a resource that allows us to link genetic information and clinical information for more than 85 percent of the cancer patients in our state. And this is an absolutely unprecedented living laboratory for cancer research. And it is our hope that through interactions with the NCI and the caBIG® initiative that we will ultimately be able to make this resource fully available to everyone in our country because it's really, I think, an incredible resource for doing outcomes research.

If we are really going to be able to collaborate, we have to be able to communicate effectively. We have to be able to share data. We have to be able to share biospecimens. It's about the impact, not the ownership.

Burt: caBIG® is the informational infrastructure which will allow us to gather information for multiple patients and multiple institutions and combine and compare that information to achieve our goals.

The endpoint of our informational infrastructure which includes personalized medicine as a major focus would allow individual physicians and individual patients to have immediate access to the data they need. I think the caBIG® process and project is contributing significantly to that by real time, accumulation of data regarding therapies from a number of centers around the country, and the ability to make that available.

Beckerle: Investigator initiated clinical trials coming from ideas at the Huntsman Cancer Institute are now being conducted on a statewide basis. And of course, what we really need to make this as effective as possible for the patient participants is real-time adverse event reporting -- real-time communication of data coming from those clinical trials so that we're really conducting this in a highly coordinated way, and we're not just in a statewide network that's a collection of silos that don't really interact and don't really communicate in real time.

It's really important for us to be able to bring the discoveries from our cancer center as quickly as possible to clinical applications so we can really have an impact on patient care. That's the goal of our research. And the caBIG® project is going to help us to be able to achieve that goal.

Interviewees

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For more information, please visit http://cabig.cancer.gov/index.asp .